

WHAT IS CLAIMED IS:

1. A key pattern connecting device for a domed metal switch, said domed metal switch including a plurality of first and second contact parts arranged in a key matrix on a main board, said first contact parts being electrically connected to rows provided to a
5 key input controller by means of a plurality of main connection patterns, respectively, said second contact parts, which are disposed within said first contact parts, respectively, being electrically connected to columns provided to said key input controller by means of another plurality of main connection patterns; said key pattern connecting device comprising:
- 10 at least one first contact part electrically connected to one of said columns, not rows, by means of said main connection patterns on said main board;
at least one second contact part electrically connected to one of said rows, not columns, by means of said main connection patterns on said main board;
a plurality of domed metal keys provided to the surfaces of said contact parts,; and
15 a flexible circuit attached to said main board in such a manner that said domed metal keys project through said flexible circuit, said flexible circuit having a plurality of connection patterns formed thereon in such a manner that the connection patterns are in contact with said domed metal keys connected to said columns and said domed metal keys connected to said rows, respectively.
- 20 2. The device as set forth in claim 1, wherein said first contact part electrically connected to one of said columns and said second contact part electrically connected to one of said rows are arranged at one side of the key matrix.
3. The device as set forth in claim 1, wherein said main connection patterns include a first main connection pattern, which is electrically connected to said first contact
25 part connected to one of said columns, and a second main connection pattern, which is electrically connected to said second contact part connected to one of said rows.

4. The device as set forth in claim 1, wherein said domed metal keys include domed metal keys connected to said columns, and domed metal keys connected to said rows.

5. The device as set forth in claim 1, wherein said flexible circuit has a plurality of through holes formed therein, through which the domed metal keys project.

6. The device as set forth in claim 5, wherein at least one of said plurality of through holes has an annular contact ring formed along its circumference, said annular contact rings each having a diameter smaller than that of each of the domed metal keys so that the annular contact rings cover the edges of the domed metal keys.

7. The device as set forth in claim 5, wherein at least one of said plurality of through holes has at least one contact terminal of a predetermined length and projected into said through hole at the predetermined position on the circumference of said through hole in such a manner that said contact terminal is in contact with one of said domed metal keys at the circumference thereof.

8. The device as set forth in claim 1, wherein said plurality of connection patterns of said flexible circuit include first connection patterns, which come into contact with said domed metal keys connected to said columns, and second connection patterns, which come into contact with said domed metal keys connected to said rows.

9. The device as set forth in claim 1, wherein said connection patterns are connected to the circumferences of said domed metal keys at an upper part of said domed metal keys.

10. The device as set forth in claim 1, wherein said flexible circuit is provided at the bottom part thereof with a first adhesive, by which said flexible circuit is attached to

678-1139(P10676)

said main board, and wherein said flexible circuit is further provided at the top part thereof with a second adhesive, by which a transparent film is attached to the flexible circuit.